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## **<NOTE>**

# **Case Study of an Unusual Human–Chimpanzee Conflict at Bulindi, Uganda**

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## **INTRODUCTION**

Across equatorial Africa expanding human populations and forest clearance for agriculture has meant that increasingly humans and great apes occupy the same habitat. Interactions between apes and people in shared environments are often characterized by competition and conflict<sup>1–6</sup>. In this report I describe an unusual human–ape conflict involving a newly-studied community of  $\geq 25$  chimpanzees (*Pan troglodytes schweinfurthii*) in heavily disturbed forest–farm habitat at

Bulindi, Western Uganda.

### Study Site

Bulindi is situated between 1°27'–1°30'N and 31°26'–31°30'E, 25 km south of Budongo Forest. The chimpanzees' territory comprises a network of small ( $\leq 50$  ha) riverine forests within the vicinity of 11 permanent villages. These unprotected forests are being logged for timber and cleared for cultivation<sup>3</sup>. The chimpanzees regularly consume agricultural foods. They are not

hunted but experience high levels of harassment from villagers. Although familiar with people, the apes are unhabituated<sup>6</sup>.

### CONFLICT CASE STUDY

#### Background

Of five main riverine forests at Bulindi, Kaawango forest in the northeast was least utilized by chimpanzees during this study (Oct 2006–Jan 2008). No evidence

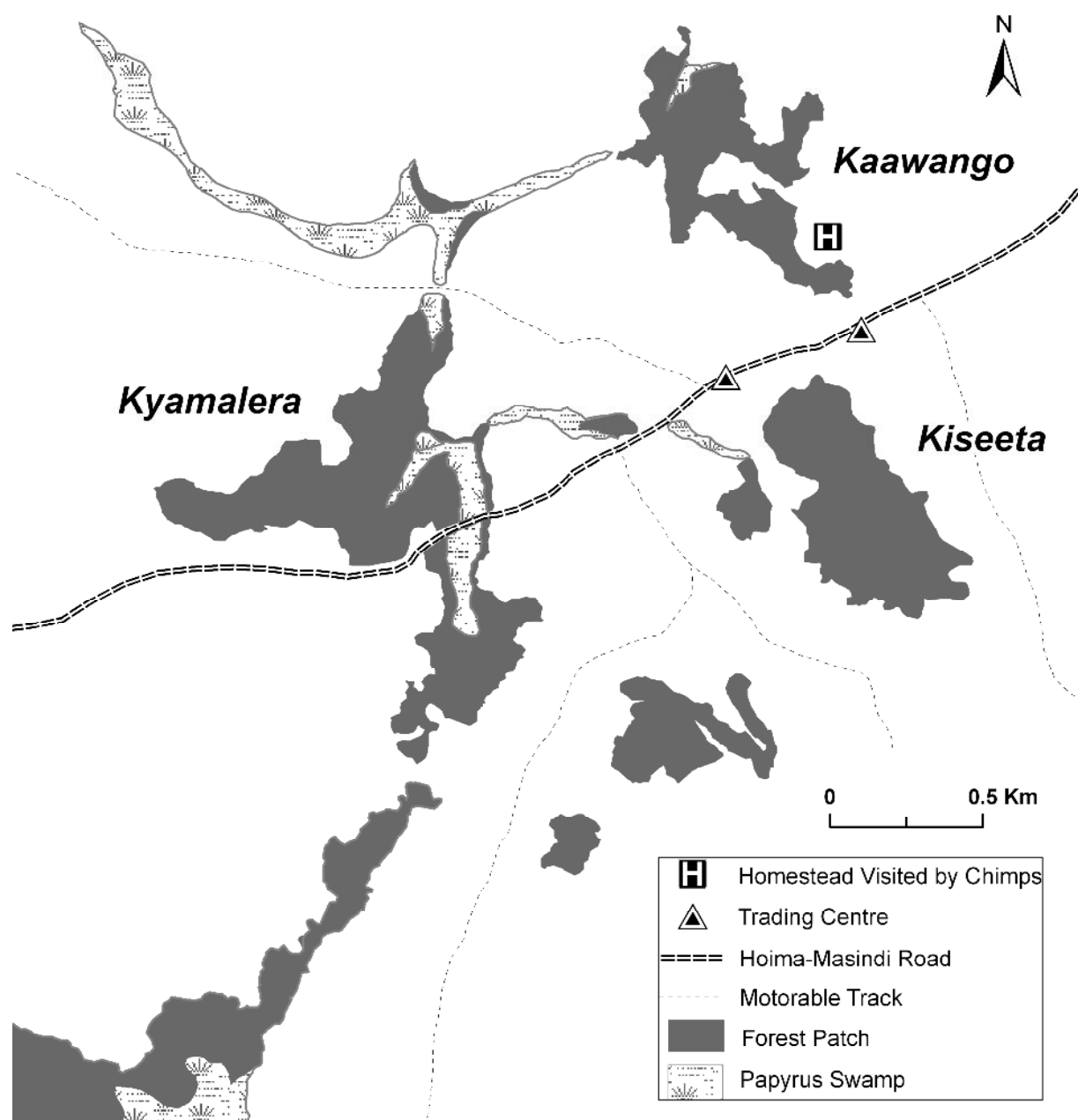


Fig. 1. Map showing riverine forest fragments at Bulindi; the surrounding matrix is dominated by farmland. Italicized names indicate forests mentioned in the text. The location of the homestead visited by chimpanzees is indicated, bordering Kaawango forest. The chimpanzees' core range extends to the southwest.

indicated chimpanzees visited Kaawango between October 2006 and April 2007. However, on 15<sup>th</sup> May, chimpanzees raided mangos at a home bordering the forest (Fig. 1). They returned to this homestead for mangos  $\geq 5$  times in May–June, after which the fruits were gone. On each occasion they travelled to Kaawango from Kiseeta or Kyamalera forests, in the core of their range (Fig. 1), apparently specifically for these mangos, which had fruited earlier than other mango trees in their territory. They spent little time within Kaawango forest.

Unlike most village homes, this house had concrete walls and glass windows. Ornamental shrubs and trees were planted around a grass lawn. The owner, a senior government official, resided in the capital Kampala but occasionally visited Bulindi. Metal doors on one side of the house had glass window panes in which chimpanzees could see their reflections, and this ‘mirror’ provoked considerable interest and excitement in the apes. Two field assistants (FA) to M.M. lived near this homestead, and much of the following account of chimpanzee behavior at the homestead is based on their observations.

**15<sup>th</sup> May.** Chimpanzees crossed to Kaawango from Kiseeta and raided mangos. In mid-afternoon, two FAs arrived at the homestead to find three adult male chimpanzees by the door. One was swaggering bipedally in front of the glass. Local residents wanted to chase them away with dogs but the FAs prevented them from doing so. When M.M. arrived, the chimpanzees were in nearby trees. Feces were found around the homestead.

**17<sup>th</sup> May.** Four adult males raided mangos late in the afternoon. Two FAs found them displaying vigorously on the lawn. They had broken several branches from small trees; one male brandished a branch while swaggering in front of the glass. Another male slowly ate a mango whilst staring intently at the glass. They paid little attention to FAs, who watched from a distance.

**23<sup>rd</sup> May.** At 0630, a FA found an adult male, an estrous female and a juvenile at the homestead. The male was displaying at the glass door. The apes left upon detecting the FA.

**28<sup>th</sup> May.** Four adult males raided mangos at 1915 and nested in trees immediately behind the house. At 0645 the next morning, a FA found them on the lawn in front of the door. They had again broken branches from ornamental trees and were examining the window. Before 0700, the males had left for Kiseeta, crossing the main road at the trading centre.

**8<sup>th</sup> June.** Three adult males raided the last of the mangos at dusk, nested nearby, and returned to the homestead at first light. Again, they displayed on the lawn, but left when a FA approached.

**18<sup>th</sup> July.** At around noon, school children saw chimpanzees ‘dancing’ at the homestead. When we arrived at 1600, five adult males were resting in trees behind the house. They crossed to Kiseeta shortly afterwards. Feces and broken branches were strewn

across the lawn.

**12<sup>th</sup> August.** Before 1130, five adult males had arrived at the homestead. It was Sunday and local residents and school children joined FAs to watch them from a distance. The males displayed all around the compound, breaking branches from trees and dragging them. Although people’s presence may have exacerbated their excitement, the apes did not threaten them directly. They appeared to want to get inside the door. One male flailed a branch against it, breaking an upper pane of glass. Another was seen trying to push a stick between the doors in an apparent attempt to prise them apart (woody particles were subsequently visible in the narrow gap separating the door’s two sides). In between bouts of displaying, the males groomed or rested, eventually leaving for Kiseeta before 1530. In addition to the broken pane, the metal panelling beneath the glass was heavily scratched by the apes’ fingernails.

The latter two visits were made after mango season was over. Both times, the chimpanzees spent several hours around the homestead, apparently without feeding, before returning to other forests in their core range.

### ***Confrontation between Chimpanzees and the House Owner***

Shortly after 1300 on 17<sup>th</sup> August, a FA telephoned M.M in Kampala, informing him of a “big fight” between chimpanzees and the homestead’s owner, who had arrived the previous day. The owner was apparently shooting at the apes, which were in a frenzied state in trees behind the house. The owner was also highly agitated and could not be approached. It was a prolonged confrontation; shots were still being fired approximately 30 minutes later. According to FAs, chimpanzees remained at the site calling and drumming until late afternoon (i.e. several hours). The following morning, FAs searched the forest but found no dead apes and no blood.

On 22<sup>nd</sup> August M.M. visited the owner who gave the following account of the incident: at around 1300 or earlier, he was inside his house and heard loud banging against the door. Two chimpanzees were outside, immediately in front of the glass. He opened gates at the side of the house, which open to a small courtyard, and went to chase them away. The animals charged towards him, vocalizing loudly; one was carrying a branch. Shocked, he ran back into the courtyard, shutting the gates. He was convinced the apes wanted to physically attack him and began shooting with his rifle in the air to frighten them away. The chimpanzees ran 50m to *Eucalyptus* trees and, still vocalizing, broke branches to threaten him. (According to the FA, other apes were in dense undergrowth nearby, vocalizing and drumming). The owner continued firing in the air. After the initial confrontation, chimpanzees twice returned to the

homestead; each time, the owner fired shots to repel them. He said he did not shoot them because he knew chimpanzees are legally protected. The six identified adult males at Bulindi were all subsequently seen by the research team in good health.

On the afternoon of this meeting, a mixed party of  $\geq 9$  chimpanzees travelled to Kaawango. FAs found five adult males on the lawn by the glass door. At their approach, one male displayed towards them dragging a branch. However, after several minutes, the owner arrived, having heard chimpanzees were at his house, and drove his car at the apes causing them to flee. He subsequently agreed to cover the lower glass panes of the door with cloth as a temporary solution. During the remaining five months of research, chimpanzees travelled to Kaawango  $\geq 8$  times and raided papaya, sugarcane, cocoa and oranges in villages surrounding the forest. They visited the homestead  $\geq 5$  times. On three occasions, adult males were discovered seated calmly by the door, now covered with cloth; each time, they returned to the forest at our approach. In October, chimpanzees were twice chased away by the owner, apparently without incident.

## DISCUSSION

Captive chimpanzees are famously capable of self-recognition in mirrors<sup>7</sup>. However, the capacity for self-recognition is most pronounced in subadult animals (8–15 yrs), and the proportion of subjects showing self-recognition declines sharply among adults<sup>8</sup>. In this anecdotal report, wild adult male chimpanzees at Bulindi were evidently fascinated by their reflections in the glass door of a house, returning to the home once mangos – the initial attractant – had finished fruiting. The chimpanzees' range includes many streams as well as papyrus swamps, and after heavy rains stretches of riverine forest become flooded. Consequently, the apes have ample opportunity to see their reflections in water. Young chimpanzees at Mahale were observed examining their reflections in pools and streams<sup>9</sup>, but it is not yet known if similar behavior occurs at Bulindi. Although the males at times intently examined the door, their high state of arousal implies that they most likely saw 'other' chimpanzees behind the glass. The house is situated outside of their core area in the northeast corner of the chimpanzees' known range. Visiting parties usually comprised adult males only. This raises the possibility that the males had identified the homestead as a location for territorial encounters with extra-group strangers. A motivation to engage in territorial confrontation at the homestead is perhaps reflected in their willingness to remain at the conflict scene to monitor and threaten the owner, despite the noisy gunshots. After the windows were covered, chimpanzees made occasional visits to the house, but their behavior was no longer excitable and aggressive.

With increasing human penetration into great ape habitats and growing interest in the conservation

implications of human–great ape interactions in human-dominated landscapes<sup>4–6</sup>, further reports of novel human–ape conflicts are anticipated.

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